

**New!**

# HR series

Proportional output thumbwheels - sprung to centre

*Distinctive features and specifications*



- High reliability, long life
- Sealed to IP68
- Backlighting option
- EMI/RFI shielding
- Other detent options on request
- Patented solution

## ENVIRONMENTAL SPECIFICATIONS

- Electronics sealed to IP68 according to IEC 60529
- Shock resistance : 50 g during 11ms
- Vibration resistance : 10-500Hz - 5g according to IEC 512-4, test 6d
- Salt spray : IEC 512-6, test 11f
- Operating temperature : -30°C to +70°C
- Storage temperature : -40°C to +85°C
- EMI/RFI shielding : IEC 61000-4-3 and ISO 11452-2 (100V/m)
- ESD discharges : 16KV according to EN 61000-4-2

## GENERAL SPECIFICATIONS

- APEM SAS patented design
- Mechanical operating angle :  
+/- 35° (versions S/G/L)  
+/- 20° (version K)
- Sprung to center
- Operating force at center:  
2N +/- 0,5N (without detent position)  
4N +/- 0,5N (with detent position)
- Mechanical life : 1 million cycles

## ELECTRICAL SPECIFICATIONS

- Hall effect sensor
- Supply voltage : 5VDC +/- 0,5V
- Reverse polarity : -10V max.
- Overvoltage : +20V max.
- Return to center voltage (no load) : +/- 0,2V
- Consumption : 11mA max. (single output)  
22mA max. (dual output)
- LED supply : 6VDC 10mA

## MATERIALS

- Wheel : polyamide with colouring
- Support : polyamide, black
- Electronics sealing : epoxy
- Connector : polyester (Molex 0510210700)
- Multiwire lead AWG28

**Tolerance** : The general tolerance for dimensions in this brochure is  $\pm 0,3$  (.012).

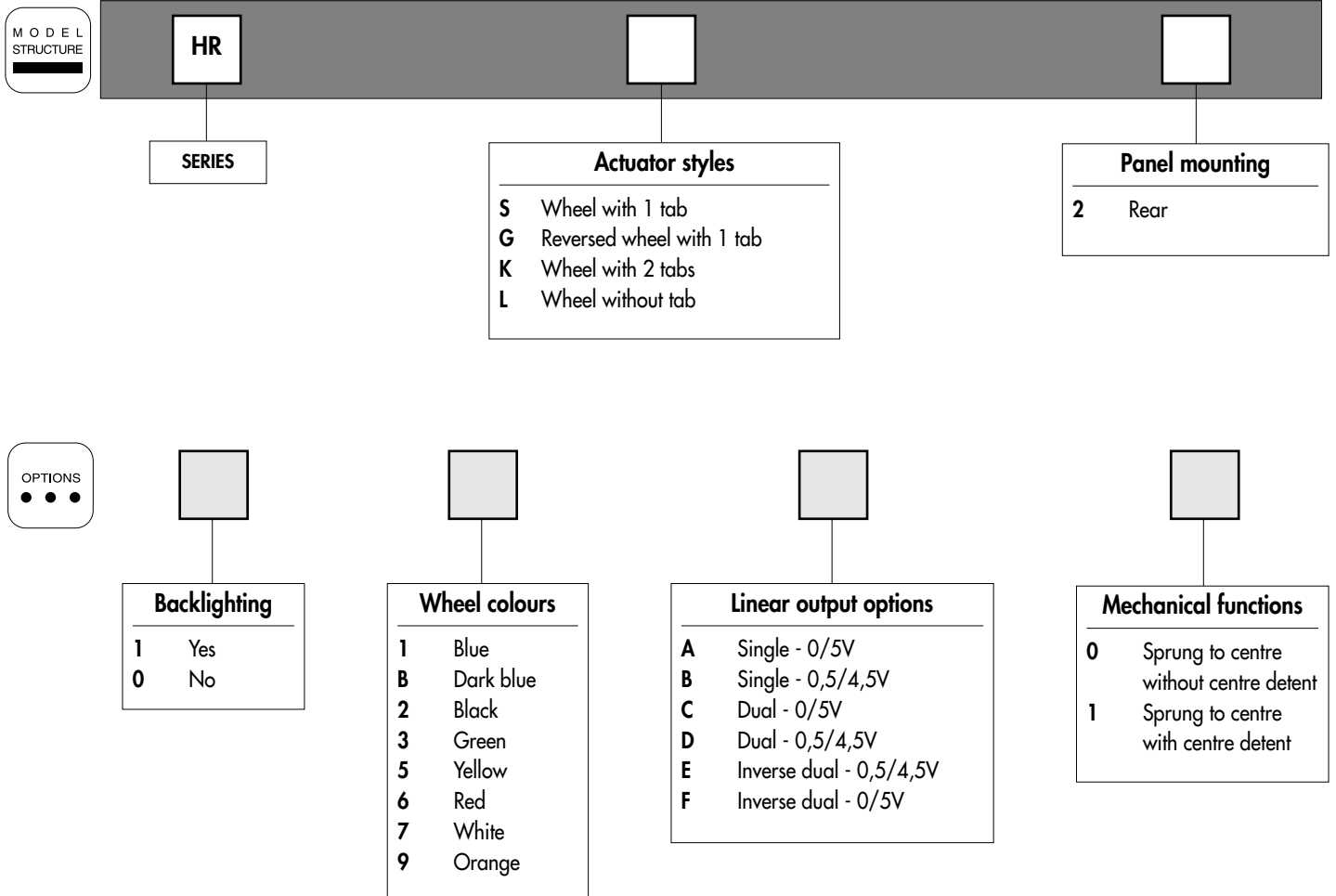
Dimensions, specifications and data shown in this brochure are subject to change without notice.

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### Overview



**Other detent options: on request.**

### ABOUT THIS SERIES

On the following pages, you will find successively :

- model structure of switches
- options in the same order as in above chart

**Dimensions** : first dimensions are in mm while inches are shown as bracketed numbers.



**NOTICE** : please note that not all combinations of above numbers are available. Refer to the following pages for further information.



**Mounting accessories** : standard hardware supplied : 2 self-tapping screws DELTA PT® 22x08 for plastic.



**Packaging unit** : 20 pieces

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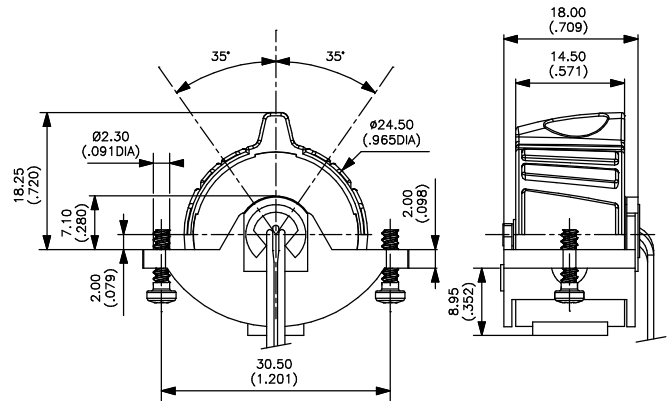
Proportional output thumbwheels - sprung to centre

*Actuator styles*

## Wheel with 1 tab - version S



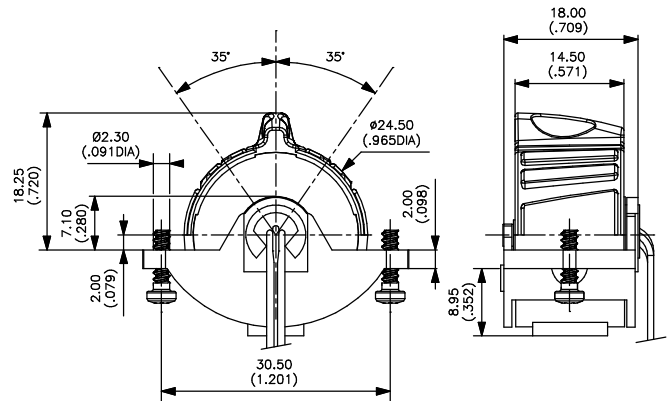
HRS2



## Reversed wheel with 1 tab - version G



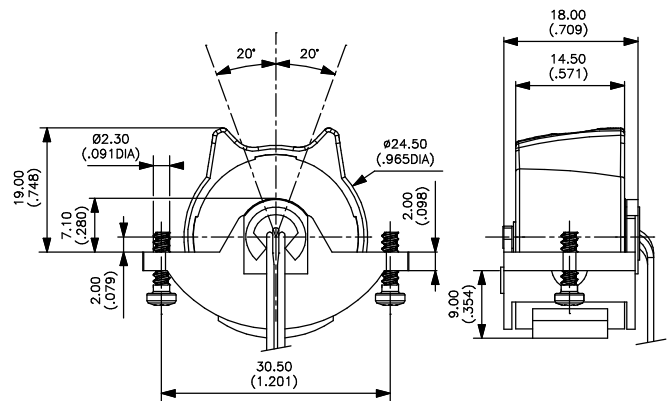
HRG2



## Wheel with 2 tabs - version K



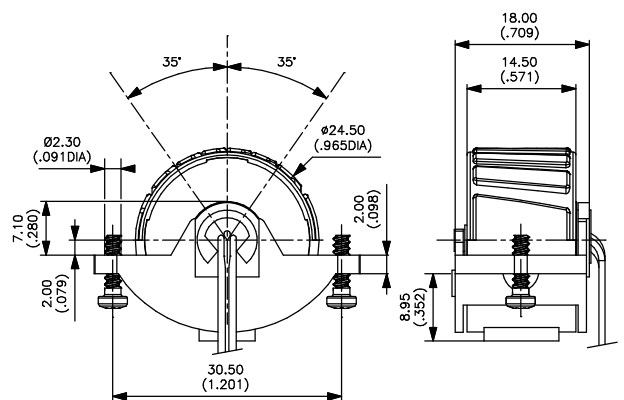
HRK2



## Wheel without tab - version L



HRL2



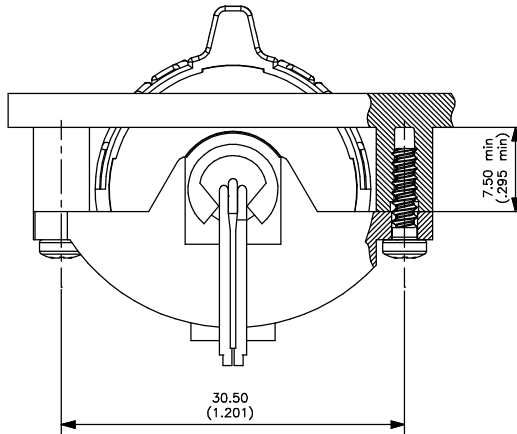
# HR series

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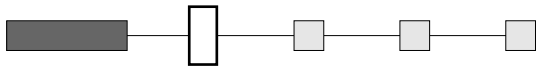
Proportional output thumbwheels - sprung to centre

*Options*

## EXAMPLE OF MOUNTING



## BACKLIGHTING



- 1 Yes
- 0 No

## WHEEL COLOURS



- 1 : Blue - B : Dark blue - 2 : Black - 3 : Green - 4 : Grey - 5 : Yellow - 6 : Red - 7 : White - 9 : Orange

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# HR series

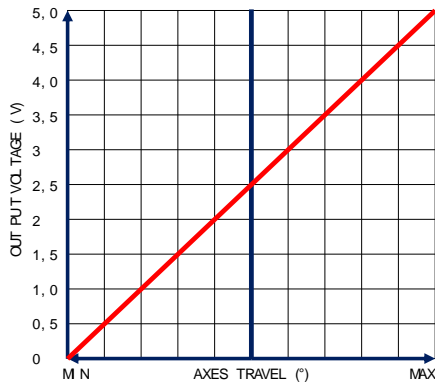
Proportional output thumbwheels - sprung to centre

*Options*

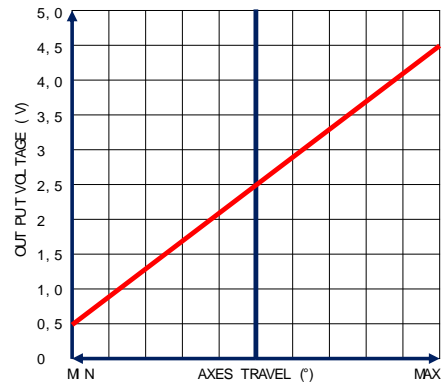
## LINEAR OUTPUT OPTIONS



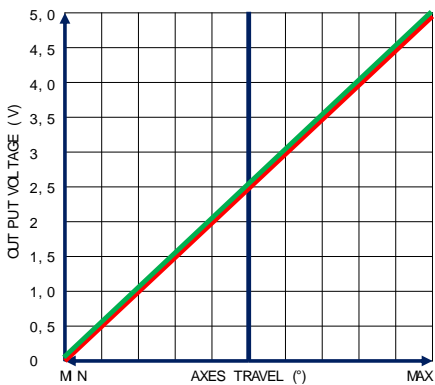
— output 1  
— output 2



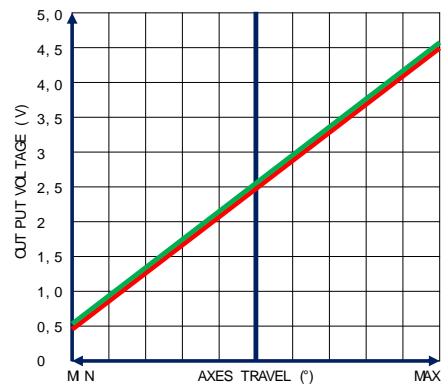
**A** Single - 0/5V



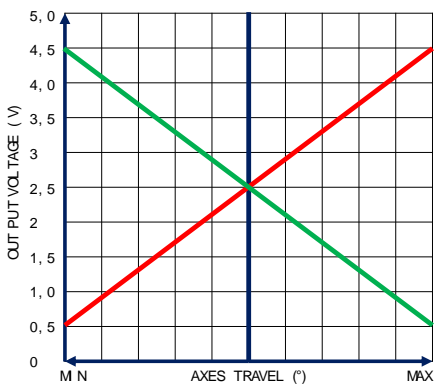
**B** Single - 0,5/4,5V



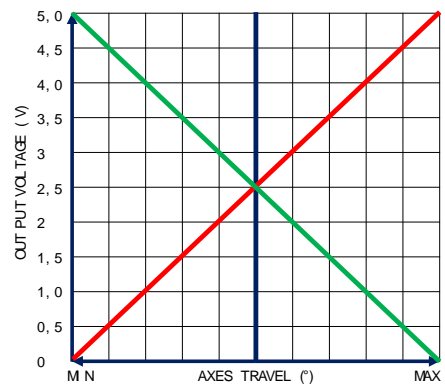
**C** Dual - 0/5V



**D** Dual - 0,5/4,5V



**E** Inverse dual - 0,5/4,5V



**F** Inverse dual - 0/5V

**Note:** The output voltage cannot be superior to the power supply voltage.  
For 0/5V versions, the power supply should not be lower than 5V.

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*Options - Connections*

### MECHANICAL FUNCTIONS



- 0 Sprung to centre without centre detent
- 1 Sprung to centre with centre detent

Other : on request.

### CONNECTIONS

#### Single output without backlighting

Pin	Function	Colour
1		
2	Power supply: +VDC 5V	Red
3		
4		
5		
6	Output	
7	Ground 0V	Black

#### Single output with backlighting

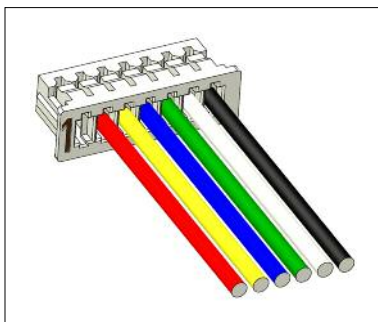
Pin	Function	Colour
1		
2	Power supply: +VDC 5V	Red
3	LED +	Yellow
4	LED -	Blue
5		
6	Output	White
7	Ground 0V	Black

#### Dual output without backlighting

Pin	Function	Colour
1		
2	Power supply: +VDC 5V	Red
3		
4		
5	Output 2	Green
6	Output 1	White
7	Ground 0V	Black

#### Dual output with backlighting

Pin	Function	Colour
1		
2	Power supply: +VDC 5V	Red
3	LED+	Yellow
4	LED-	Blue
5	Output 2	Green
6	Output 1	White
7	Ground 0V	Black



Wiring harness with multiwire lead AWG28. Length 140 mm

